

with a printed circuit (PC) board **225** containing electronics and logic (e.g., memory, communication bus, processor, etc.) for implementing computer system functionality. The digitizer pad is also included in PC board **225**. A midframe **235** is shown along with stylus **80**. Position-adjustable antenna **85** is shown.

[0061] Infrared communication mechanism **64** (e.g., an infrared emitter and detector device) is for sending and receiving information from other similarly equipped devices (see FIG. 2B). A signal (e.g., radio) receiver/transmitter device **108** is also shown. The receiver/transmitter device **108** is coupled to the antenna **85** and also coupled to communicate with the PC board **225**. In one implementation a wireless communication system is used to provide two-way communication between computer system **100** and other networked computers and/or the Internet via a proxy server (see FIG. 2A).

[0062] FIG. 3D is a functional block diagram of computer system **100**, some of which can be implemented on PC board **225** (FIG. 3C). Computer system **100** includes an address/data bus **110** for communicating information, a central processor **101** coupled with the bus for processing information and instructions, a volatile memory **102** (e.g., random access memory, RAM) coupled with the bus **110** for storing information and instructions for the central processor **101** and a non-volatile memory **103** (e.g., read only memory, ROM) coupled with the bus **110** for storing static information and instructions for the processor **101**. Computer system **100** also includes an optional data storage device **104** (e.g., memory stick) coupled with the bus **110** for storing information and instructions. Device **104** can be removable. As described above, computer system **100** also contains display module **5000** (e.g., flexible display panel **500**) coupled to the bus **110** for displaying information to the computer user. PC board **225** can contain the processor **101**, the bus **110**, the ROM **103** and the RAM **102**.

[0063] With reference still to FIG. 3D, computer system **100** also includes a signal transmitter/receiver device **108**, which is coupled to bus **110** for providing a physical communication link between computer system **100**, and a network environment (e.g., network environments **50** and **51** of FIGS. 2A and 2B, respectively). As such, signal transmitter/receiver device **108** enables central processor unit **101** to communicate wirelessly with other electronic systems coupled to the network. It should be appreciated that within the present embodiment, signal transmitter/receiver device **108** is coupled to antenna **85** (FIG. 3C) and provides the functionality to transmit and receive information over a wireless communication interface. It should be further appreciated that the present embodiment of signal transmitter/receiver device **108** is well suited to be implemented in a wide variety of ways. For example, signal transmitter/receiver device **108** could be implemented as a modem.

[0064] In one embodiment, computer system **100** includes a communication circuit **109** coupled to bus **110**. Communication circuit **109** includes an optional digital signal processor (DSP) **120** for processing data to be transmitted or data that are received via signal transmitter/receiver device **108**. Alternatively, processor **101** can perform some or all of the functions performed by DSP **120**.

[0065] Also included in computer system **100** of FIG. 3D is an optional alphanumeric input device **106** that in one imple-

mentation is a handwriting recognition pad ("digitizer") having regions **106a** and **106b** (FIGS. 3A and 3C), for instance. Alphanumeric input device **106** can communicate information and command selections to processor **101**. Computer system **100** also includes an optional cursor control or directing device (on-screen cursor control **107**) coupled to bus **110** for communicating user input information and command selections to processor **101**. In one implementation, on-screen cursor control device **107** is a flexible touch sensor **501** (FIG. 3C) incorporated with flexible display panel **500**. On-screen cursor control device **107** (e.g., flexible touch sensor **501**) is capable of registering a position on display panel **500** where the stylus makes contact. Display module **5000** is suitable for generating graphic images and alphanumeric characters recognizable to the user. In the preferred embodiment, display module **5000** is a flexible display panel.

[0066] FIG. 4 is a cross-section illustrated perspective of display module **5000** of palmtop computer **100** in FIG. 6A, in one embodiment of the present invention. Flexible display panel **500** is shown as disposed on top of flexible touch sensor **501**. By disposing flexible display panel **500** on top of flexible touch sensor **501**, the full viewing functionality and capacities of the display are retained. Unlike those devices where the touch panel is disposed on top of the display screen, in this embodiment of the present invention, there is no loss of illumination or resolution. Further, by virtue of disposing flexible display panel **500** on top of flexible touch sensor **501**, the parallax effect (the perceived distortion of an immersed object) has also been eliminated.

[0067] Electronic paper, employed in the fabrication of the flexible display panel **500**, is a new technology. Electronic paper, flexible to the point of being bendable without compromising function, comprises a sealed chamber filled with a colored liquid (e.g., a black colored liquid), electrostatically charged encapsulated colored particles (e.g., white particles) that are responsive to an applied voltage, and transparent conductors, adapted to conduct an applied voltage, that are disposed within, and near the outer surface of, the sealed chamber. The applied voltage, conducted through the transparent conductors, attracts the electrostatically charged white particles, thereby displacing the colored (black) liquid, such that the electrostatically charged white particles, through the application of a voltage, take the shape and form of graphics and/or characters.

[0068] It should be appreciated that in another embodiment of the present invention, different colored liquids and/or different colored particles may be implemented, such that color functionality is achieved and displayable.

[0069] It should also be appreciated that in another embodiment of electronic paper, a liquid crystal e.g., a polymer liquid crystal based electronic paper display may be implemented in the present invention. It should be further appreciated that other types of liquid crystals may be utilized in the present invention.

[0070] Still referring to FIG. 4, directly below flexible display panel **500** is flexible touch sensor **501**. Flexible touch sensor **501** is adapted to respond to flexible display panel **500** being contacted with a stylus, a finger, a fingernail, or other pointing implement, utilized by a user.

[0071] In one embodiment, the technology employed in the fabrication of flexible touch sensor **501** is electronic fabric